

IN THE CLAIMS:

Please CANCEL Claims 1-20 without prejudice. Please ADD claims 21-62.

1 1-20. (cancelled)

1 21. (new) A method of connecting an end-user Voice-over-Internet-Protocol
2 (VoIP) telephony gateway device to a network, comprising:

3 providing a web site which enables a particular end user associated with the end-
4 user VoIP telephony gateway device to enroll with a VoIP service provider as a VoIP
5 subscriber of a VoIP telephony service provided by the VoIP service provider;

6 coupling the end-user VoIP telephony gateway device to a broadband access
7 device which is coupled to the Internet via an Internet Service Provider (ISP) which
8 provides a broadband access service, wherein the broadband access device is a member
9 of the group consisting of a DSL modem and a cable modem;

10 coupling a PSTN-type telephone to the VoIP telephony gateway device so that the
11 particular end user can accept incoming telephone calls and place outbound telephone
12 calls using the PSTN-type telephone, wherein the telephone calls traverse at least a path
13 through the global Internet that carries packetized voice data; and

14 executing a handshake registration operation when the end-user VoIP telephony
15 gateway device is coupled to the broadband access device in order to automatically
16 register the VoIP telephony gateway device, via the broadband access device and the ISP,
17 with a central server that is configured to set up VoIP telephone calls; and

18 directing telephone calls intended for the particular end user to the VoIP
19 telephony gateway device after the registration operation has completed.

1 22. (new) A communication system that provides Voice-over-Internet-
2 Protocol (VoIP) telephony services to end users, comprising:

3 a plurality of public VoIP gateway devices that process both inbound calls from
4 the public switched telephone network (PSTN) and outbound calls to destinations in the
5 PSTN so that the calls may be carried partially via VoIP paths through the global
6 Internet;

7 a plurality of end user gateway devices connectable to the global Internet via
8 respective broadband access devices;

9 a merchant web site configured to allow end users to enroll as subscribers; and

10 a call processing server coupled to communicate with the public VoIP gateway
11 devices and the end user gateway devices and operative to implement an automated
12 registration operation to register a particular end-user gateway device that is associated
13 with a particular end user, wherein a database entry is written during the registration
14 operation to associate the particular end-user gateway device with a network address and
15 wherein the call processing server is further operative to selectively route, based on a
16 destination telephone number and the network address, an inbound telephone call
17 received at particular one of the public VoIP gateway devices to the particular end-user
18 gateway device that is associated with the destination telephone number.

1 23. (new) The method of Claim 22, wherein the end user is charged a
2 monthly subscription rate to access the VoIP network service.

1 24. (new) The method of Claim 22, wherein the end user is charged a per-call
2 fee for at least certain telephone calls.

1 25. (new) The method of Claim 22, wherein the broadband access device
2 comprises a DSL modem.

1 26. (new) The method of Claim 22, wherein the broadband access device
2 comprises a cable modem.

1 27. (new) The method of Claim 22, wherein the end user is a home user and
2 the broadband access device is selected from the group consisting of a DSL modem and a
3 cable modem.

1 28. (new) A method of providing a VoIP (Voice over Internet Protocol)
2 telephony service, comprising:
3 supplying a plurality of geographically dispersed point of presence (POP)
4 gateway devices that accept inbound calls from the PSTN and direct outbound calls to the
5 PSTN;

6 enrolling, via a web site interface, a plurality of end users into the VoIP telephony
7 service, wherein a particular end user of the plurality of end users can both receive
8 inbound telephone calls and place outbound telephone calls using a standard PSTN-type
9 telephone that is coupled to an end-user VoIP telephony gateway device that is
10 configured to be coupled to the Internet via a broadband access device;

- 11 automatically registering the end-user VoIP telephony gateway device into the
12 VoIP network service by implementing an automated handshake protocol with the end-
13 user VoIP telephony gateway device;
- 14 receiving a particular inbound phone call at a particular point of presence gateway
15 device of the plurality of geographically dispersed gateway devices, wherein a
16 destination telephone number associated with the particular inbound phone call
17 corresponds to the particular end user; and
- 18 based upon Internet address information derived as a result of the registering
19 operation, routing the call from the particular point of presence gateway device via the
20 global Internet to the particular end-user VoIP telephony gateway device so that the end
21 user can accept the call using the standard PSTN-type telephone.
- 1 29. (new) The method of Claim 28, wherein the end user is charged a
2 monthly subscription rate to access the VoIP network service.
- 1 30. (new) The method of Claim 28, wherein the end user is charged a per-call
2 fee for at least certain telephone calls.
- 1 31. (new) The method of Claim 28, wherein the broadband access device
2 comprises a DSL modem.
- 1 32. (new) The method of Claim 28, wherein the broadband access device
2 comprises a cable modem.
- 1 33. (new) The method of Claim 28, wherein the end user is a home user and
2 the broadband access device is member of the group consisting of a DSL modem and a
3 cable modem.
- 1 34. (new) The method of Claim 33, wherein the automated handshake
2 protocol is implemented substantially when the end-user VoIP telephony gateway device
3 is connected via the broadband access device to a central registration server that is
4 operative to register and configure the end-user VoIP telephony gateway device to
5 prepare it to place and receive telephone calls and for such calls to be associated with a
6 billing account associated with the particular user.
- 1 35. (new) The method of Claim 28, wherein the standard PSTN-type
2 telephone is wired to the particular end-user VoIP telephony gateway device using
3 standard telephone wiring.

1 36. (new) The method of Claim 28, wherein the particular end-user VoIP
2 telephony gateway device acts as a cordless phone base station and the standard PSTN-
3 type telephone acts as a cordless telephone handset.

1 37. (new) The method of Claim 28, wherein the particular end-user VoIP
2 telephony gateway device uses a wireless LAN protocol to communicate with a wireless
3 mobile unit and the wireless mobile unit is configured to support packet telephony calls.

1 38. (new) The method of Claim 37, wherein the wireless mobile unit is
2 further configured to support cellular telephony calls and is capable of roaming from a
3 cellular telephony call to a packet telephony call.

1 39. (new) A method of providing a VoIP (Voice over Internet Protocol)
2 telephony service, comprising:

3 enrolling, via a web site interface, a plurality of end users into the VoIP telephony
4 service, wherein a particular end user of the plurality of end users can both receive
5 inbound telephone calls and place outbound telephone calls using a standard PSTN-type
6 telephone that is coupled to an end-user VoIP telephony gateway device that is
7 configured to be coupled to the Internet via a broadband access device;

8 registering the end-user VoIP telephony gateway device into the VoIP network
9 service by implementing an automated handshake protocol with the end-user VoIP
10 telephony gateway device; and

11 detecting when an inbound call is made to a telephone number associated with the
12 end-user VoIP telephony gateway device, and in response thereto, and based on
13 information derived as a result of the registering operation, routing the call via the global
14 Internet to the end-user VoIP telephony gateway device.

1 40. (new) The method of Claim 39, wherein the end user is charged a
2 monthly subscription rate to access the VoIP network service.

1 41. (new) The method of Claim 39, wherein the end user is charged a per-call
2 fee for at least certain telephone calls.

1 42. (new) The method of Claim 39, wherein the broadband access device
2 comprises a DSL modem.

1 43. (new) The method of Claim 39, wherein the broadband access device
2 comprises a cable modem.

1 44. (new) The method of Claim 39, wherein the end user is a home user and
2 the broadband access device is member of the group consisting of a DSL modem and a
3 cable modem.

1 45. (new) The method of Claim 44, wherein the automated handshake
2 protocol is implemented substantially when the end-user VoIP telephony gateway device
3 is connected via the broadband access device to a central registration server that is
4 operative to register and configure the end-user VoIP telephony gateway device to
5 prepare it to place and receive telephone calls and for such calls to be associated with a
6 billing account associated with the particular user.

1 46. (new) The method of Claim 39, wherein the end-user VoIP telephony
2 gateway device comprises first and second telephony ports for coupling to first and
3 second external telephony devices, respectively, and wherein inbound calls to a first
4 telephone number are directed to the first port and inbound calls to a second telephone
5 number are directed to the second port.

1 47. (new) The method of Claim 46, wherein the first and second external
2 telephony devices are directly connected to the first and second telephony ports,
3 respectively.

1 48. (new) The method of Claim 46, wherein the first and second external
2 telephony devices are directly connected to the first and second telephony ports,
3 respectively, by means of standard telephone wiring.

1 49. (new) The method of Claim 39, wherein the web site interface comprises
2 a merchant web site interface.

1 50. (new) The method of Claim 39, wherein the web site interface is provided
2 by a provider of the VoIP telephony service.

1 51. (new) The method of Claim 1, wherein the operation of registering the
2 end-user VoIP telephony gateway device into the VoIP network service is implemented
3 via an automated computer-to-computer enrollment interface.

1 52. (new) The method of Claim 39, wherein the end-user VoIP telephony
2 gateway device is a customer premises device having ports for coupling to a plurality of
3 standard PSTN-type telephones, and each port functions as a direct-inward-dial line with
4 an associated direct-inward-dial telephone number.

1 53. (new) A method of providing a VoIP (Voice over Internet Protocol)
2 telephony service, comprising:
3 supplying a merchant web site interface to enroll a plurality of end users into the
4 VoIP telephony service, wherein a particular end user of the plurality of end users can
5 both receive inbound telephone calls and place outbound telephone calls using a standard
6 PSTN-type telephone device that is coupled as an extension to an end-user VoIP
7 telephony gateway device that the end user connects to the Internet via a broadband
8 access modem connection selected from the group consisting of a cable modem and a
9 DSL modem.

1 54. (new) A method of providing a VoIP (Voice over Internet Protocol)
2 telephony service, comprising:
3 supplying a merchant web site interface to enroll a plurality of end users into the
4 VoIP telephony service, wherein a particular end user of the plurality of end users can
5 both receive inbound telephone calls and place outbound telephone calls using a wireless
6 handset that is coupled to the global Internet via a first wireless local area network access
7 gateway;
8 at a central server, via an Internet connection, programmatically interfacing with a
9 VoIP telephony software module associated with the particular user to register a current
10 network location associated with the particular user to configure the VoIP telephony
11 service to cause inbound telephone calls directed to the particular user to be directed to
12 the wireless handset via the first wireless local area network access gateway; and
13 detecting when an inbound call is made to a telephone number associated with the
14 particular end user, and in response thereto, routing the inbound call via the global
15 Internet to the wireless handset,
16 wherein the routing is via the first wireless local area network access gateway, but
17 when the particular user later roams to an area covered by a second wireless local area
18 network access gateway, the programmatically interfacing operation is repeated, whereby
19 the routing is subsequently via the second wireless local area network access gateway.
1 55 (new) The method of claim 54, wherein the method is used to hand off a
2 single call from the first wireless local area network access gateway to the second
3 wireless local area network access gateway.

1 56. (new) The method of claim 54, wherein the method is used to support a
2 first telephone call before the user roams and a second telephone call after the user
3 roams, and the first and second coverage areas are nonoverlapping.

1 57. (ncw) The method of claim 54, wherein the method is used to hand off a
2 cellular telephony call from a cellular communications network to the second wireless
3 local area network access gateway.

1 58. (new) The method of Claim 54, wherein a SIP protocol is used to
2 associate the telephone number with an IP address of the first wireless local area network
3 access gateway at a first time and with the second wireless local area network access
4 gateway at a second time.

1 59. (new) The method of Claim 54, wherein the telephone number is
2 represented as an application layer alphanumeric address designator corresponding to a
3 SIP address.

1 60. (new) The method of Claim 54, wherein a mobile IP protocol is used to
2 associate the telephone number with an IP address of the first wireless local area network
3 access gateway at a first time and with the second wireless local area network access
4 gateway at a second time.

1 61. (new) The method of claim 54, wherein the first wireless local area
2 network access gateway uses a protocol selected from the group consisting of an 802.11
3 protocol, a HomeRF protocol, a Bluetooth protocol, and an air interface protocol defined
4 by a software downloadable protocol software routine.

1 62. (new) The method of claim 54, wherein the first wireless local area
2 network access gateway corresponds to a public access gateway located in public area
3 that services mobile individuals with wireless handsets located in the coverage area of the
4 first wireless local area network access gateway.